

ATLAS  
WHITE  
NON-STAINING  
PORTLAND  
CEMENT

SPECIAL LIMITED EDITION

of which this volume is number

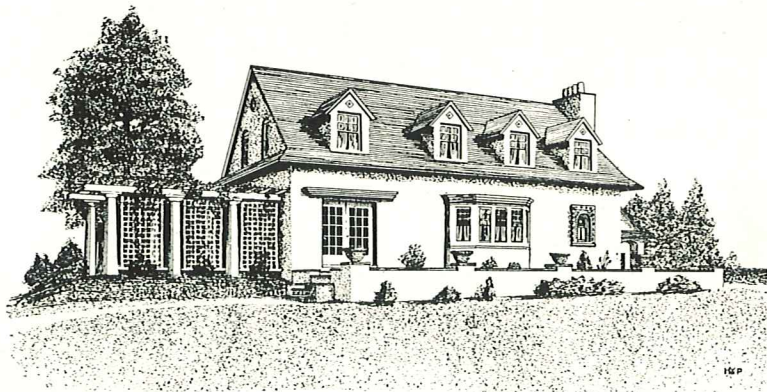
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*Lewis & Burroughs,*

Presented with the Compliments of

THE ATLAS PORTLAND CEMENT COMPANY

*Crane Feeders Company.*





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Chicago, Philadelphia and Minneapolis.  
FIRST EDITION

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D. H. Burnham & Company  
Architects

INSURANCE EXCHANGE BUILDING  
CHICAGO, ILLINOIS

Thompson-Starrett Company  
Builders

*Atlas-White used for setting and pointing terra cotta tile*



# INTRODUCTION

ALL books such as this can be divided roughly into two classes: one in which it is necessary to read a great deal to get little real information, and one in which it is necessary to read only a little to get a great deal of good information. Every effort which has gone into this book has been centered on placing it in the latter class. You can judge with what success.

Architectural books dealing with materials constitute a source of valuable information to the architect and prospective builder, when the subject matter is carefully selected, concise and trustworthy. The fact that some deal with the product of individual manufacturers is in no way detrimental to their value to those whose knowledge of the subject treated should be thorough and comprehensive.

This book deals with established facts, and as such, we sincerely believe it will prove valuable to you from the standpoint of an intelligent understanding of the latest practice in the varied use of white cement in building.

You will be the best judge of that, however, and we ask you to read it thoroughly in order that you may appreciate for yourself the truth of these statements.

THE ATLAS PORTLAND CEMENT COMPANY

New York, September, 1913



McKim, Mead & White  
Architects

MUNICIPAL BUILDING  
NEW YORK CITY

Thompson-Starrett Co.  
Builders

*Atlas-White used for laying and backing granite*



**T**HE Atlas Portland Cement Company in January 1910 perfected and placed on the market Atlas-White Portland Cement in order to meet the growing and wide spread demand for a White Non-Staining Portland Cement that could also be used for decorative purposes.

In calling the attention of the user to the quality of Atlas-White Portland Cement we wish to emphasize the fact that our product absolutely justifies its name. It is white in color, non-staining and a true Portland Cement. Its chemical composition is practically identical with that of our Atlas Portland Cement, except that it is free from those elements which cause the dark color in commercial Portland Cements. The strength of Atlas-White, both in tension and compression, is equal in every way to that of our other product.

Although Atlas-White has been on the market for only three years, its wide spread usage justifies the position which it now enjoys.

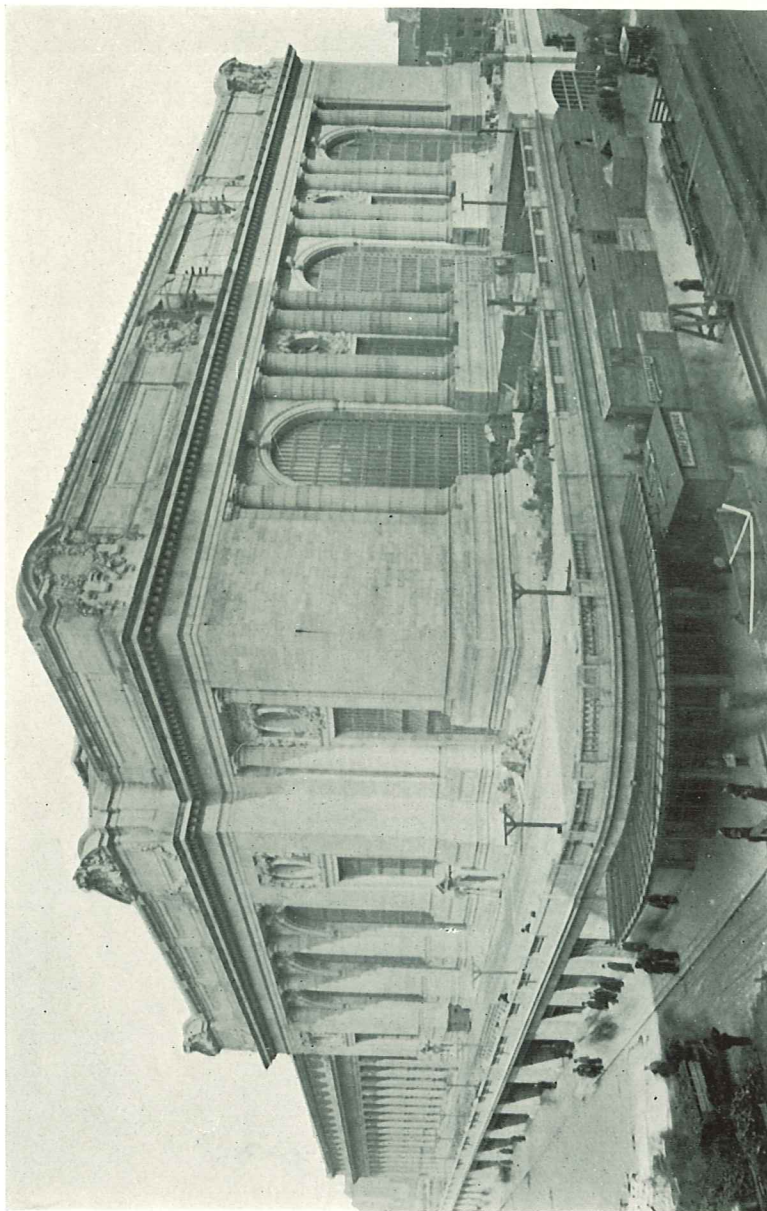
Atlas-White is manufactured at our Northampton plants under the careful and efficient supervision of our expert chemists. We take pleasure in calling attention to the analyses and tests made by both our own and independent laboratories.\*

Our Experts have made an exhaustive study of the usages of White Cement. We trust you will not hesitate to call on us, and thereby derive the benefit of their experience.

White Non-Staining Cement has been on the market to a limited extent for a number of years. It

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\*The tests referred to appear on pages 56 to 62 inclusive.



Warren & Wetmore and Reed & Stem  
Associate Architects

GRAND CENTRAL TERMINAL  
NEW YORK CITY

John Pierce Company  
Builders

*Atlas-White used for laying brick, laying, pointing and backing limestone*





Warrington G. Lawrence  
Architect

BOROUGH HALL  
ROSELLE, N. J.

Schaeffer & Newman  
Builders

*Atlas-White used for steps and terrace, laying bricks and trim*

has been used mostly for interior decorative work, but the discovery of its value for exterior stucco work and many other purposes has wonderfully increased the scope of its usefulness.

Where decorative effects, both of finish and color are desired, the necessity for care and attention, in the selection of the proper aggregates and in the application of the material, is of course apparent. In this we ask for your co-operation.



Owner Was Architect

RESIDENCE OF H. J. KLUTHO  
JACKSONVILLE, FLORIDA

W. P. Richardson  
Builder

*Exterior Atlas-White Stucco*

We desire to call your attention to the following formulae and instructions regarding various uses of Atlas-White.

It is being used today for Interior and Exterior Decorative Work, Exterior Stucco, in mortar for setting Marble, Tile, Brick and Stone, Facing Concrete Block, Decorative Concrete, Stone and Statuary, Terrazzo Floor, Artistic Color Effects in conjunction with various colored pigments, Wainscoting for bathroom and kitchen walls.

Although the color of the finished surface is largely that of the cement used, the color of the sand nevertheless has a most important influence. The difficulty of obtaining in some localities a sand of a satisfactory quality has influenced The Atlas Portland Cement





Norman McGlashan  
Architect

RESIDENCE OF W. P. PLUMMER  
DOUGLSTON, NEW YORK

Woodruff Company  
Builders

*Exterior Atlas-White Stucco, and steps faced with Atlas-White*

Company to place upon the market for the convenience of its customers the following mixtures:

### ATLAS-WHITE MIXTURE No. 1.

Tensile Strength in pounds per sq. in.

<u>1 Day</u>	<u>7 Days</u>	<u>28 Days</u>	<u>3 Months</u>	<u>6 Months</u>
365 lbs.	535 lbs.	735 lbs.	795 lbs.	832 lbs.

This mixture is composed of one part Atlas-White Portland Cement and one part pure white silica sand thoroughly mixed. This sand is of fine, even grain and the mixture can be used as a mortar:

For Plastering on Concrete Walls, Exterior or Interior, for Floor Surfacing where a rich Mixture is required,



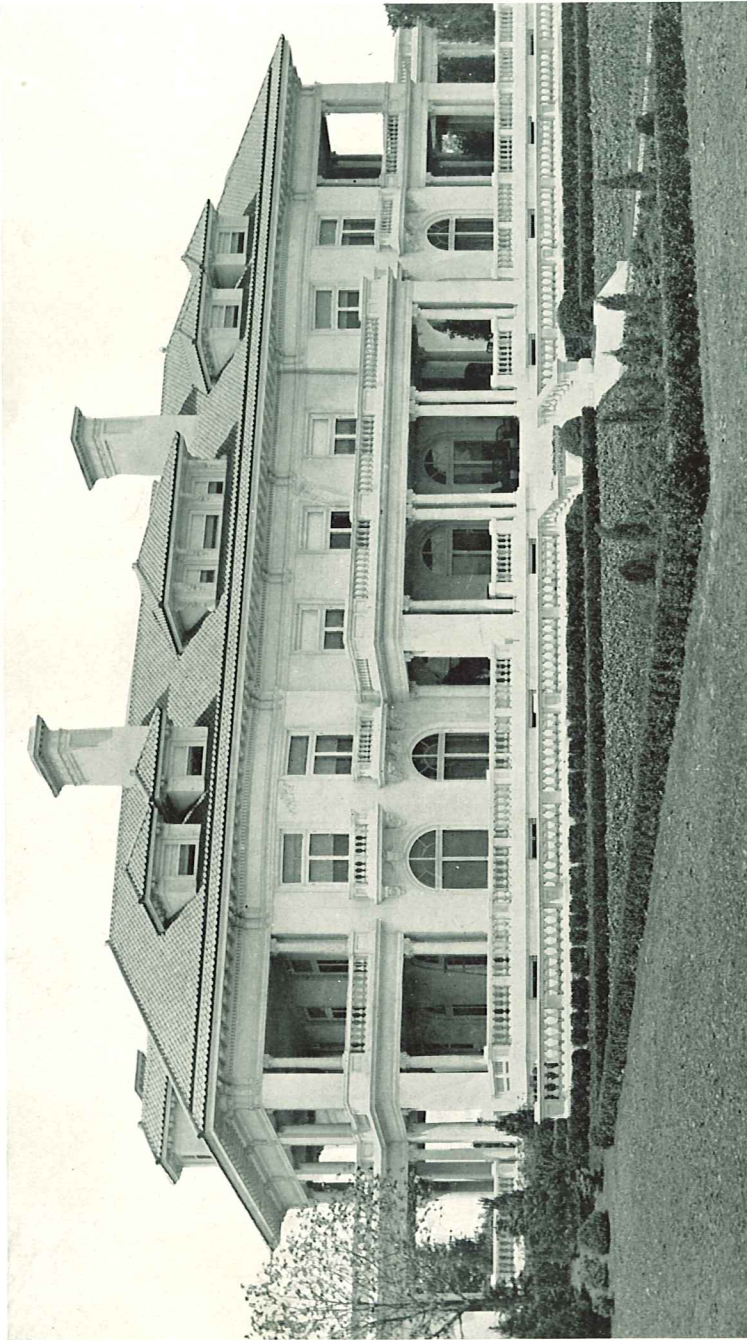
S. S. Beeman  
Architect

RESIDENCE OF GEORGE J. SAYER  
McHENRY, ILLINOIS

*Exterior Blocks Coated with one inch of Atlas-White*

G. J. Sayer  
Supervised Construction





Montrose W. Morris  
Architect

RESIDENCE OF E. T. BEDFORD  
GREEN'S FARMS, CONNECTICUT  
*Exterior Atlas-White Stucco (on hollow tile)*

J. C. Udall  
Builder



THE UNION CENTRAL LIFE BUILDING

Cass Gilbert and Gaiber & Woodward  
Associate Architects

CINCINNATI, OHIO

Thompson-Starrett Company  
Builders

*Atlas-White used for laying and backing exterior stone and terra cotta*





W. S. Covell  
Architect

RESIDENCE OF DANIEL SIMONDS  
FITCHBURG, MASSACHUSETTS

Benjamin A. Howes  
Engineer

*Exterior Atlas-White Stucco (on solid concrete)*

and for use in making mortar for laying terrazzo and tile floors. It is also recommended for washing in joints, particularly of terrazzo floors, and is more satisfactory than neat cement for setting ceramic mosaic tile, marble and wall tile of any description. The following formula is recommended for interior work such as bathroom and kitchen walls, or any smooth white finish on perpendicular walls:

1 bag (94 lbs.) Atlas-White Mixture No. 1.  
20 lbs. White Hydrated Lime.



Residence of  
**DR. O. E. COAKLEY**  
CRESTON, IOWA

E. W. Stillwell, Architect  
Merrill Moore, Builder

*Atlas-White faced  
concrete blocks  
used*



Residence of  
**WILLIAM MORSE**  
HACKENSACK, N. J.

C. V. R. Bogert, Architect  
Ferber Construction Company,  
Builders

*Exterior Atlas-White  
Stucco*



Residence of  
**E. B. CRAFT**  
HACKENSACK, N. J.

Frank Eurich, Jr., Architect  
Vreeland & White, Builders

*Exterior Atlas-White  
Stucco  
(on hollow tile)*





Merrill Moore  
Architect

RESIDENCE OF A. L. HUNTINGTON  
CRESTON, IOWA

Merrill Moore  
Builder

*Atlas-White faced concrete blocks used*

This mixture has the following characteristics: Its base is a true Portland Cement. It is insoluble in water. Its surface will be hard and hydraulic. It will make a smooth, glossy finish. It can easily be applied by a mechanic.

The hydraulic and water resisting qualities of Portland Cement cannot be obtained by the use of any of the hard plasters on the market.

### ATLAS-WHITE MIXTURE No. 2

Tensile Strength in pounds per square inch.

<u>1 Day</u>	<u>7 Days</u>	<u>28 Days</u>	<u>3 Months</u>	<u>6 Months</u>
280 lbs.	465 lbs.	645 lbs.	742 lbs.	764 lbs.

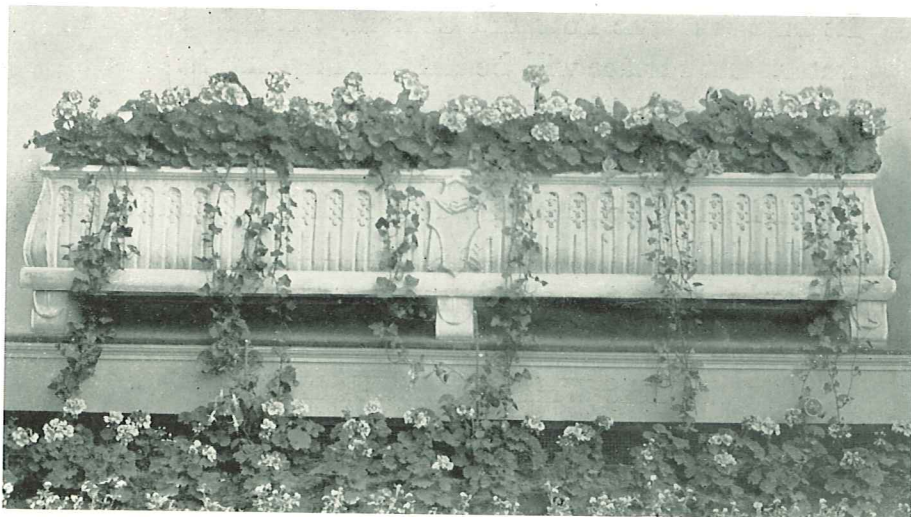


Clarence Luce  
Architect

PAVILION ON ESTATE OF NEWMAN ERB  
ELBERON, NEW JERSEY

J. C. Kraus  
Builder

*Atlas-White cast*



Designed and executed  
by J. C. Kraus

FLOWER BOX ON WOOLEY ESTATE  
LONG BRANCH, NEW JERSEY

*Atlas-White cast*





W. J. Obenaus  
Architect

RESIDENCE OF LOUIS SCHUPP  
ALBANY, NEW YORK

Little & Jensen  
Builders

*Exterior Atlas-White Stucco (on metal lath)*

This mixture is composed of one part of Atlas-White Portland Cement and two parts of pure white silica sand thoroughly mixed. The sand in this mixture is graded in such a manner as to make a dense mortar. This is the mixture recommended in the Standards of the American Concrete Institute for Surfacing Concrete Sidewalks and Floors; also for Facing Concrete Blocks.

It is also the mixture recommended by the Associated Tile Manufacturers for Tile Setting, and for Floating and Buttering Wall Tile and the foundation for Terrazzo Floors.



THE EIGHTY MAIDEN LANE BUILDING

D. H. Burnham & Company  
Architects

NEW YORK CITY

Thompson-Starrett Company  
Builders

*Atlas-White used for pointing and backing limestone*



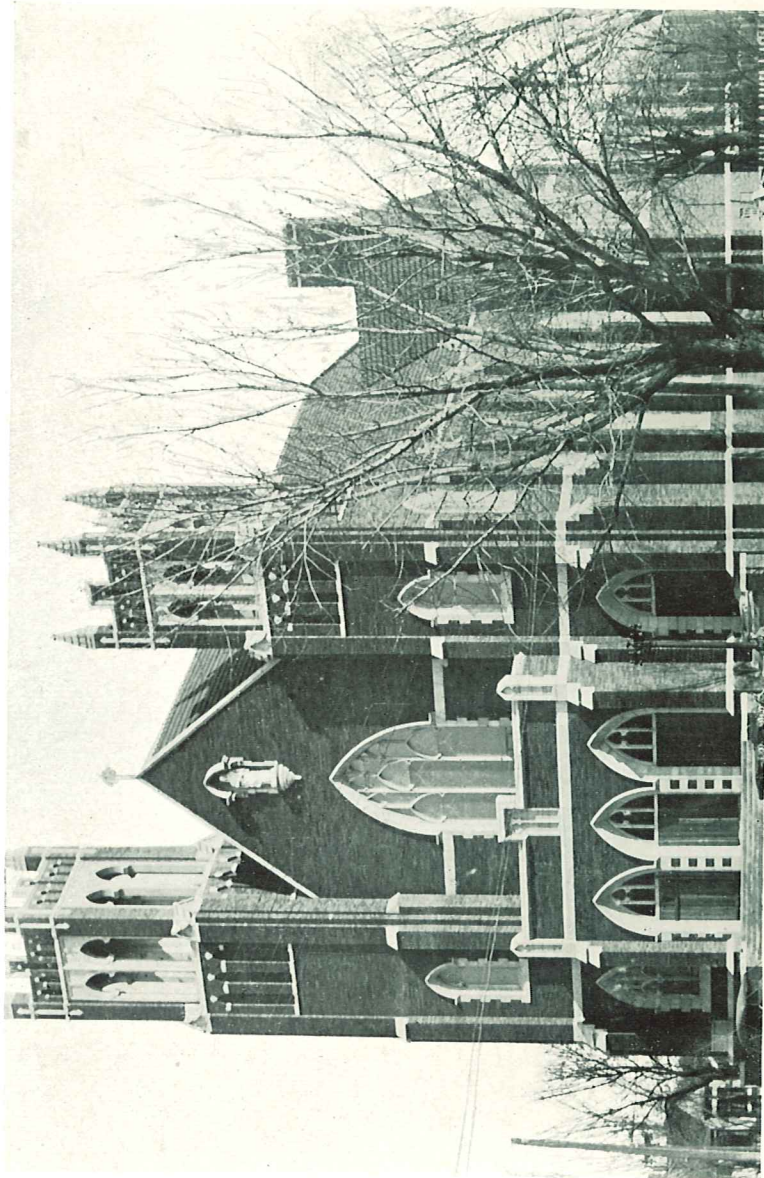


Warren & Wetmore  
Architects

**AEOLIAN HALL**  
NEW YORK CITY

George A. Fuller Company  
Builders

*Atlas-White used for laying and backing limestone. Atlas-White also used for setting and pointing limestone in Stern Brothers Building*



C. W. Way  
Architect

SAINT CECILIA CHURCH  
HASTINGS, NEBRASKA

Joseph Hempel  
Builder

*Atlas-White used for decorative exterior trimmings*





Julius Barnes  
Architect

NORMAL PARK METHODIST CHURCH  
CHICAGO, ILLINOIS

Amer. Hydr. Stone Co.  
Builders

*Atlas-White used for decorative exterior trimming*

It is also recommended for Cast Stone work of every description such as Window Sills and Lintels, Balustrades, Vases, Garden Furniture and Decorative Work.

With the addition of 10 pounds of White Hydrated Lime to one bag (94 pounds) of Atlas-White Mixture No. 2 it is recommended as a mortar for laying up white enameled brick, white terra cotta and any fine textured stone, such as Bedford Limestone, Marble or Granite, where, as an absolutely non-staining material, it has no equal.

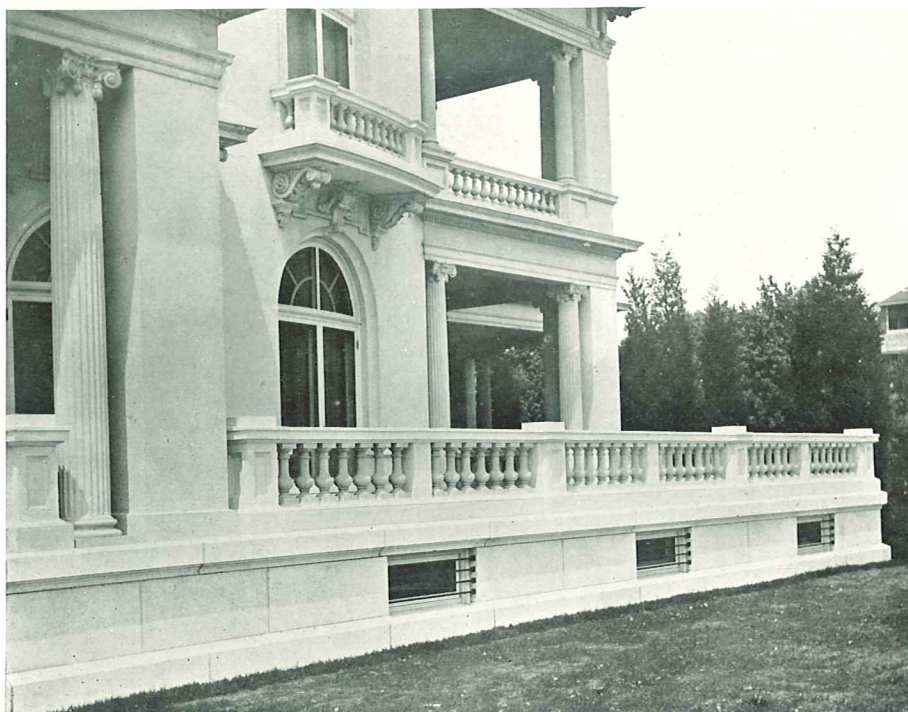


Ernest A. Arend  
Architect

RESIDENCES FOR MRS. G. M. MILLER  
DEAL PARK, NEW JERSEY  
*Exterior Atlas-White Stucco (on metal lath)*

I. R. Taylor & Company  
Builders





Montrose W. Morris  
Architect

RESIDENCE OF E. T. BEDFORD  
GREEN'S FARMS, CONNECTICUT

J. C. Udall  
Builder

*Exterior Atlas-White stucco, balustrades, etc.*

### ATLAS-WHITE MIXTURE No. 3

Tensile Strength in pounds per square inch.

<u>1 Day</u>	<u>7 Days</u>	<u>28 Days</u>	<u>3 Months</u>	<u>6 Months</u>
180 lbs.	361 lbs.	535 lbs.	617 lbs.	620 lbs.

This mixture is composed of one part of Atlas-White Portland Cement and three parts of pure white silica sand thoroughly mixed. The sand in this mixture is graded in a similar manner to that in Mixture No. 2, the mortar being weaker on account of additional sand. This mixture is recommended where an especially strong mortar is not necessary. It can be used for the manufacture of Cement Brick.



**GUARANTEE TRUST COMPANY'S BUILDING**

**NEW YORK CITY**

**York & Sawyer  
Architects**

**Marc Eidlitz & Son  
Builders**

*Atlas-White used for pointing and backing limestone*























located throughout this country. In all of them Atlas-White has been used with success—a striking record of satisfaction under widely varying conditions.

Please understand that these are only representative structures we show, and are but a very few of the many into which Atlas-White has entered. It has not been the thought to burden you with useless repetition of such practical recommendations.

We know of no stronger proof which could be placed before you, of the quality and dependability of Atlas-White, except the proof which you can secure by the actual use of the product in your own work. Nothing else could compare with that, and we feel sure that you will agree with us in this view when the use of Atlas-White has become a part of your own practical experience.



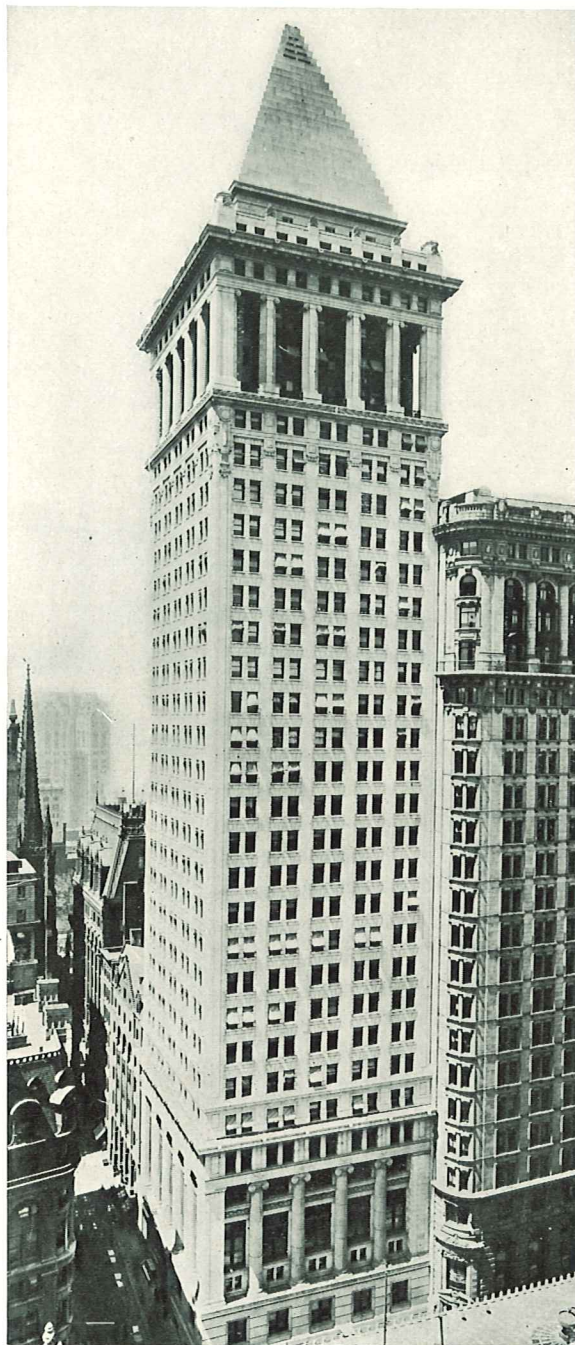


BANKERS  
TRUST COMPANY  
BUILDING

NEW YORK CITY

Trowbridge & Livingston, Architects  
Marc Eidlitz & Son, Builders

*Atlas-White used for laying  
and backing exterior stone*



## FORMULAE AND RECOMMENDED PRACTICES

The use of Atlas-White Portland Cement in stucco is so desirable that complete directions for the proper handling of the material and its application are given as follows:

### SPECIFICATIONS FOR ATLAS-WHITE PORTLAND CEMENT STUCCO

Stucco may be used to cover wood, tile, brick, stone, concrete or other building material, provided certain precautions are taken in preparing the surface properly so that the mortar will adhere and not crack or scale off. As a rule two coats are used; the first is the scratch coat, to be composed of the following formula:

#### FIRST COAT

1 bag (94 lbs.) Atlas-White Portland Cement.  
300 lbs. clean graded sand.  
30 lbs. hydrated lime.  
3 lbs. plasterers' hair or fibre.

Or use

1 bag (94 lbs.) Atlas-White Mixture No. 3.  
10 lbs. hydrated lime.  
1 lb. plasterers' hair or fibre.

#### SECOND COAT

1 bag (94 lbs.) Atlas-White Mixture No. 2.  
10 lbs. white hydrated lime.

The first coat can be made of Atlas Portland Cement and the second coat of Atlas-White with perfect



success, and will materially decrease the cost on account of the lower price of regular Atlas Portland Cement. Should one coat work be desired, use the formula for the second or finish coat.

In using stucco on a frame structure, first cover the surface with two thicknesses of roofing paper; then put on furring strips about 1 foot apart, and on these fasten the metal lathing. (There are several kinds of lathing, any of which are good.) Apply the scratch coat 1-2 inch to 3-4 inch thick and press it through the lath sufficiently to form a good key, and roughen the surface with a stick or trowel. This should be allowed to dry for at least 24 hours. Before the second coat is applied, the first must be thoroughly wetted down. Apply the finish coat 1-4 inch to 1-2 inch thick.

For stucco on hollow tile the work should be done in two coats throughout, and the tile should be thoroughly wet before applying the first coat of stucco. This scratch coat should be at least 1-2 inch thick outside of the tile surface, applied under pressure, and well scratched before it begins to set. The final coat should be 1-4 inch to 1-2 inch thick and finished as desired.

To apply stucco on brick, stone or concrete, clean the surface of the wall thoroughly, using plenty of clean water so as to soak the wall. If the surface is brick or stone the joints should be recessed before cleaning the surface. Concrete should be roughened by picking with a stone axe. Apply the first coat 1-2



inch to 3-4 inch thick, and the finish coat 1-4 inch to 1-2 inch thick.

Various tints can be secured by the use of coloring matters. The material should be carefully mixed, and in hot weather precaution should be taken to prevent the stucco from drying out too quickly. This may be done by spraying the walls every day for three or four days after the finish coat has been applied or by covering with burlap to protect them from the direct rays of the sun.

Stucco should never be applied when there is danger of frost.

There are various methods of finishing stucco as the taste of the architect demands:

Smooth finish—Steel trowel.

Stippled finish—Steel or coarse hair brush pressed into the fresh mortar and immediately withdrawn.

Spatterdash finish—Wet mortar thrown against the wall with a broom or trowel.

Pebbledash finish—Coarse sand or pebbles thrown into the mortar while fresh and soft.



**ATLAS-WHITE PEBBLE DASH STUCCO COAT**

Surface smoothed with a float, and pebbles or coarse sand thrown against it and pressed into the fresh mortar



**ATLAS-WHITE SPATTER DASH STUCCO COAT**

Surface smoothed, and mortar thrown against it with a broom or trowel



**ATLAS-WHITE STIPPLED STUCCO COAT**

Surface smoothed, and while soft a stiff broom or steel brush is pressed into the mortar and immediately withdrawn



**ATLAS-WHITE FLOATED STUCCO COAT**

The mortar surface is smoothed with a wooden float



Covering Capacity of  
ATLAS-WHITE MIXTURE No. 1

One barrel (4 bags of 94 pounds each) will cover  
approximately

- 9 square yards 1-2 inch thick
- 6 1-2 square yards 3-4 inch thick
- 4 1-2 square yards 1 inch thick

ATLAS-WHITE MIXTURES No. 2 AND No. 3

One barrel (4 bags of 94 pounds each) will cover  
approximately

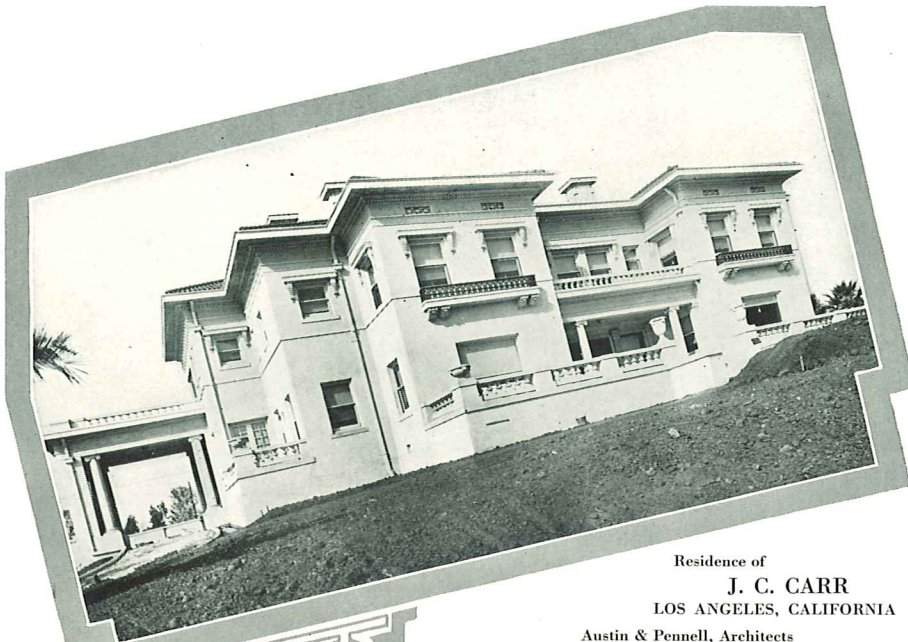
- 8 1-2 square yards 1-2 inch thick
- 6 square yards 3-4 inch thick
- 4 1-4 square yards 1 inch thick



GARAGE, PAVEMENT AND FENCE  
RESIDENCE OF F. P. HUNKINS, ST. LOUIS, MO.  
*Exterior Atlas-White Stucco on Atlas reinforced concrete*

Erected by E. D. Hunkins





Residence of

**J. C. CARR**

LOS ANGELES, CALIFORNIA

Austin & Pennell, Architects

Cement Products & Construction Company, Builders

*Balustrades, columns and urns cast in Atlas-White*



Residence of

**W. B. WHITE**

AUGUSTA, GEORGIA

H. T. Wendell, Architect

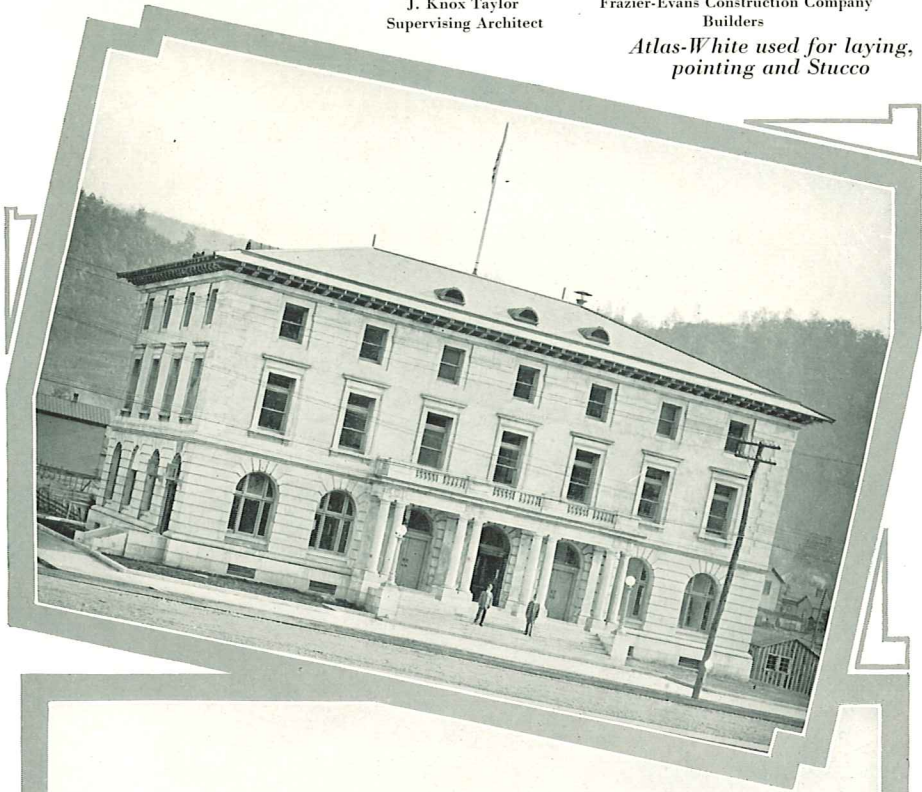
L. E. Palmer, Builder

*Exterior Atlas-White Stucco*

UNITED STATES POST OFFICE, BIG STONE GAP, PA.  
J. Knox Taylor  
Supervising Architect

Frazier-Evans Construction Company  
Builders

*Atlas-White used for laying,  
pointing and Stucco*



T. R. Benz  
Architect

ESCAMBIA COUNTY BUILDING  
PENSACOLA, FLORIDA

Blount Construction Company  
Builders

*Atlas-White exterior finish*



## FOR FACING CONCRETE BLOCKS

Use our Atlas-White Mixture No. 2, or one part Atlas-White Portland Cement and two parts white sand, or marble dust, making a wet mortar and having the thickness in the center from one-quarter inch to three-eighths inch, running from one inch to one and one-half inch at ends. Keep face of block damp as long as possible.



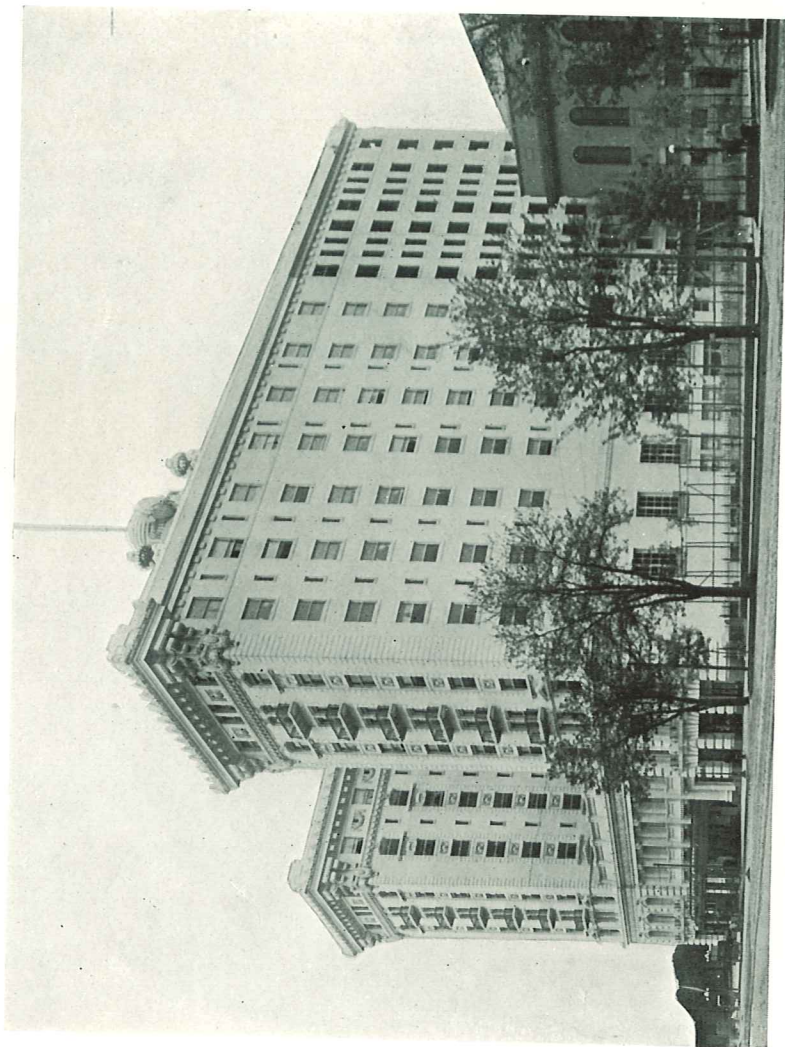
I. L. Heeps, Architect

HIGH SCHOOL BUILDING  
WAYLAND, IOWA

N. Roth, Builder

*Concrete brick faced with Atlas-White*





Parkinson & Bergstrom  
Architects

HOTEL UTAH  
SALT LAKE CITY, UTAH

James Black Masonry and Const'n Co.  
Builders

*400,000 concrete brick faced with Atlas-White used in exterior walls. Atlas-White also used for window caps*

## SPECIFICATIONS FOR LAYING TERRAZZO FLOORS

Use our Atlas-White Mixture No. 2, or one part Atlas-White Portland Cement and two parts clean, fine white sand. Lay mortar one-half inch thick on the base prepared for the purpose and on top of the mortar place the design; pound it thoroughly, using a wooden block for the purpose. Then remove the paper and grout the spaces with neat cement, rubbing it over the top with the wooden block. After cleaning, allow to harden, and rub down with water and fine sand. Then fill all spaces with neat cement and when hard polish with pumice stone.

## BATHROOM AND KITCHEN WALLS

For wainscoting bathroom and kitchen walls Atlas-White mortar may be used instead of patent plasters, thus securing a hard, white and durable finish, which can easily be washed or scrubbed without harm. Nail furring strips to the side walls and to these fasten the metal lath. Apply the base coat composed of a mortar made according to the following formula; one-half inch thick.

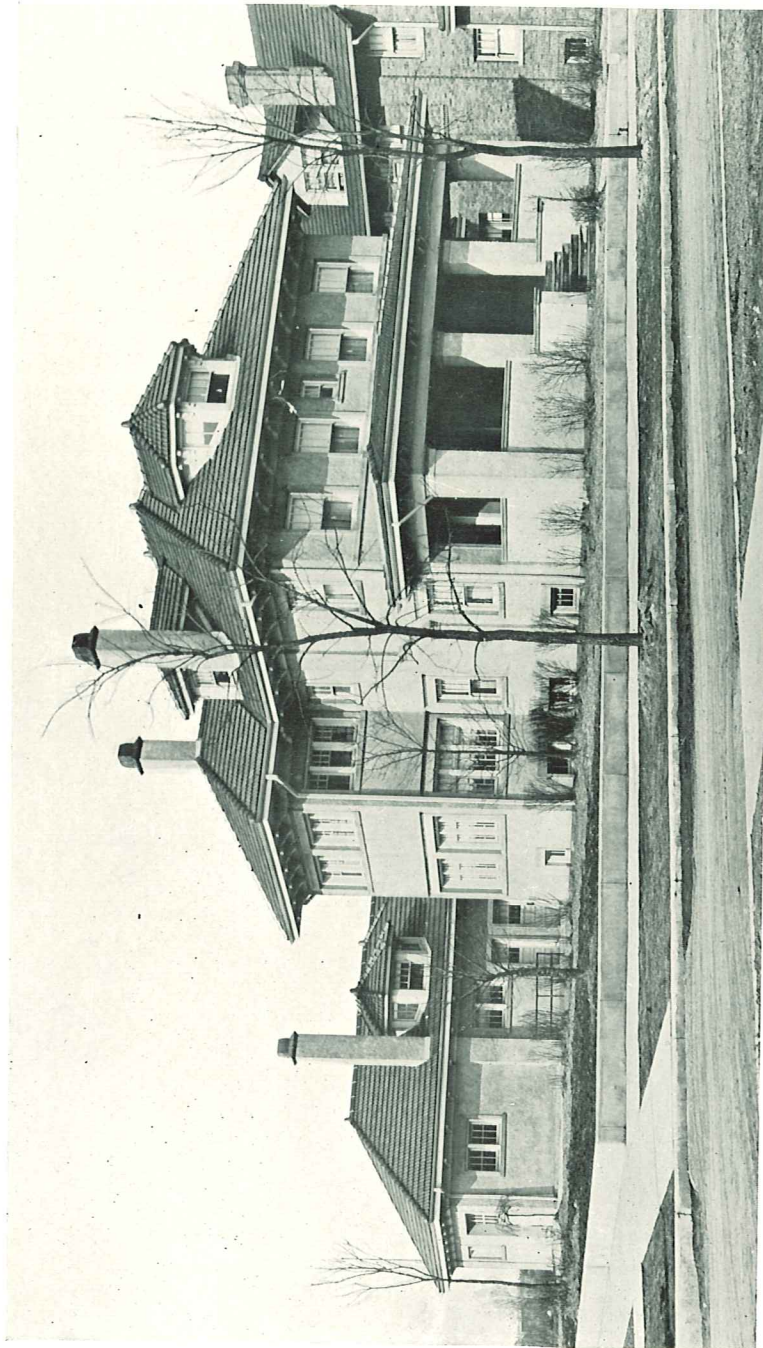
1 bag Atlas-White Mixture No. 3  
10 pounds White Hydrated Lime  
1 to 2 pounds Plasterers' hair or fibre

Thoroughly scratch this coat and when hard apply the top coat to a depth of one-quarter inch, composed according to the formula:

1 bag Atlas-White Mixture No. 1  
20 pounds White Hydrated Lime

Trowel to a smooth, hard finish.





John R. Stone  
Architect

RESIDENCE OF WILLIAM E. DEE  
CHICAGO, ILLINOIS  
*Exterior Atlas-White Stucco (on hollow tile)*

James Stewart Company  
Builders

## COLORING

Atlas -White Portland Cement is particularly adaptable where coloring is desired. It assimilates the coloring matter much more readily than the grey Portland, thus making the architectural possibilities unlimited. There are, however, a number of colors that are not permanent and therefore not advisable to use. The blacks are particularly good to procure the various shades of grey. None of the colors used as per the table below will materially affect the strength of the mortar.

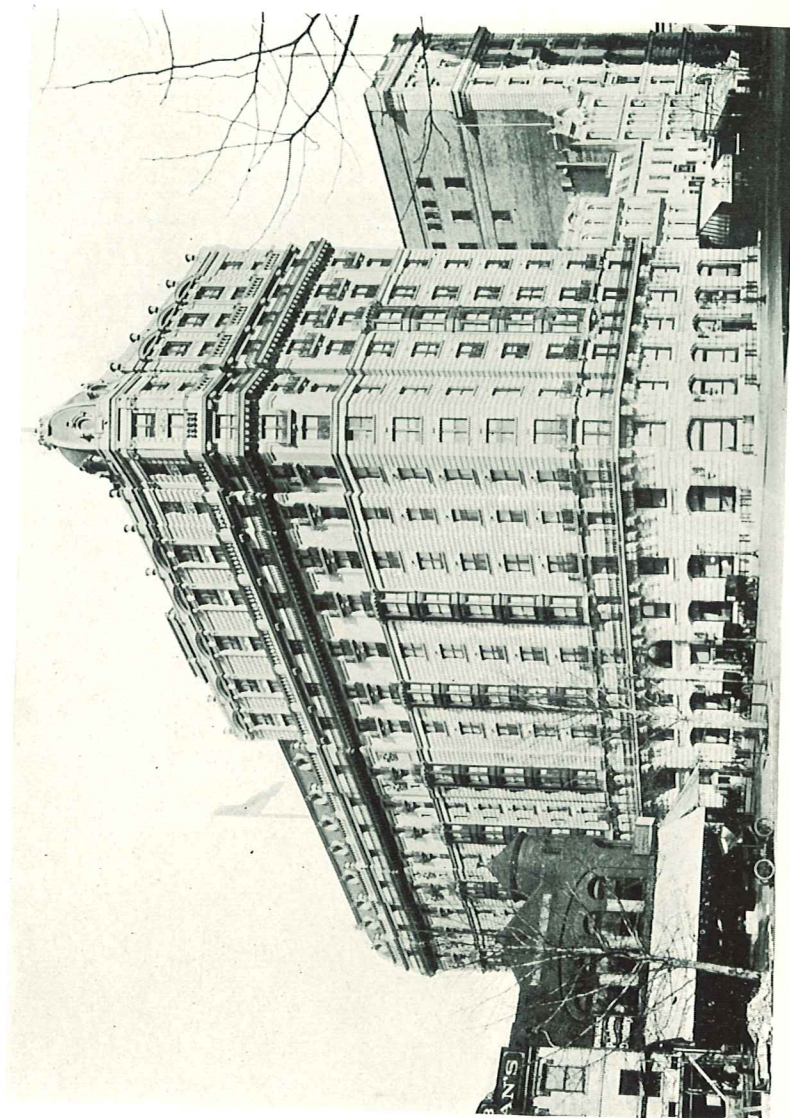
The colors must be carefully mixed with the dry cement before the sand and water are added.

### TABLE OF COLORS

Color Desired	Coloring Matter	Lbs. of Color required per bag of cement	
		Light	Dark
Black and Greys	Carbon Black	1-2	1
Blue	Ultramarine	5	10
Brick Red	Red Oxide of Iron	5	10
Bright Red	Turkey Red	5	10
Brown	Metallic Brown	5	10
Yellows	Yellow Ochre	5	10

There are a number of concerns who have devoted years of study to this particular phase of the subject, and have developed entirely satisfactory coloring matter, which can be used to produce all the principal colors with Portland Cement.



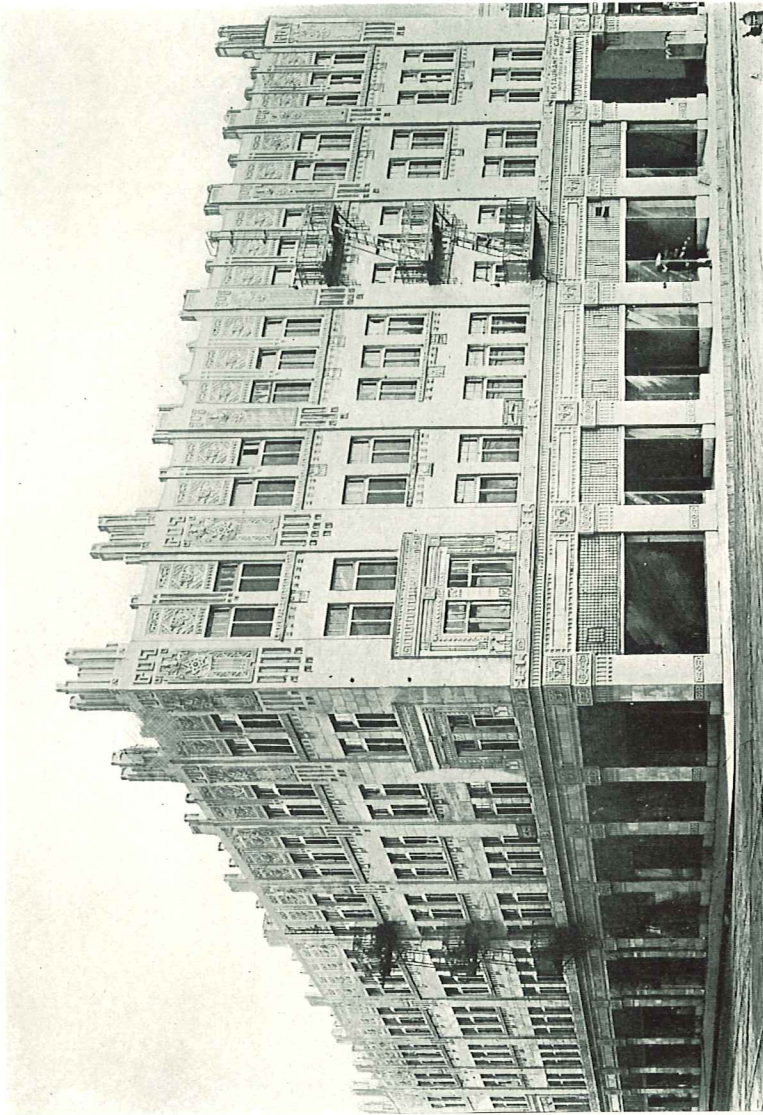


H. J. Hardenberger  
Architect

RALEIGH HOTEL  
WASHINGTON, D. C.

*Atlas-White used for backing limestone*

George A. Fuller Company  
Builders



Barkeley & Gould  
Builders

**HOTEL CORDOVA**  
LOS ANGELES, CALIFORNIA  
*Faced entirely with Atlas-White*

Nehrer & Skilling  
Architects



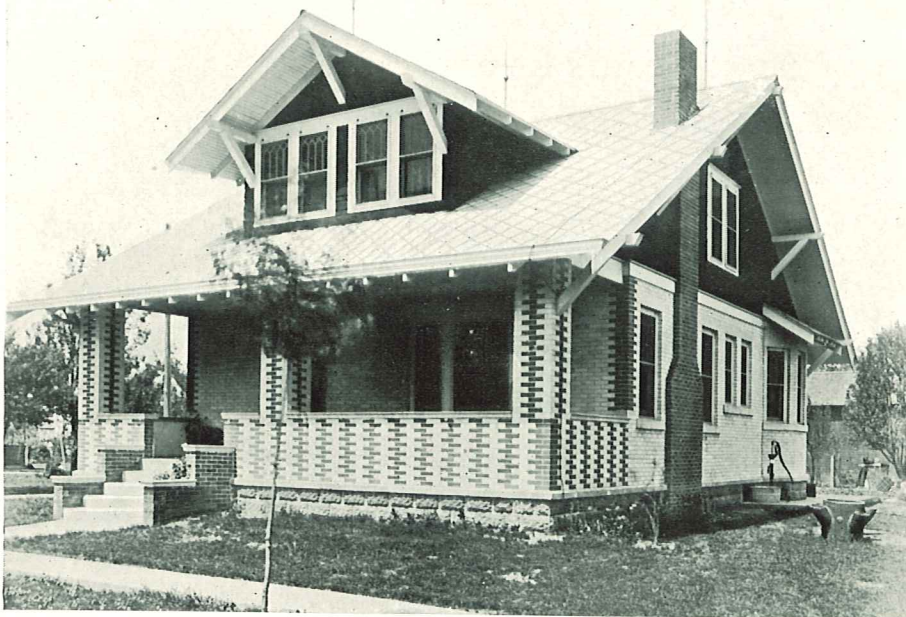


RESIDENCE OF E. ZURHORST

Joseph Atwood, Contractor

SANDUSKY, OHIO

*Atlas-White Stucco (on metal lath over old brick)*



Roth & Roth, Architects

RESIDENCE OF J. P. SHOWALDER

Roth & Roth, Builders

WAYLAND, IOWA

*Atlas-White faced brick*

## WARNING ABOUT STAINING

In order to secure the properly expected results from the use of white non-staining cement, reasonable care in the handling of the other materials is imperative.

Atlas-White Portland Cement contains no element that will stain, and in itself is absolutely non-staining. If dirty sand, dirty water or dirty tools are used in the mixing, however, trouble is sure to result.

When Atlas-White is used for laying and backing marble, limestone, granite, or other stones, the stone must be well protected in transit from the quarry to the operation, as well as protected in storage before being placed in the work, or staining will be sure to result. That is obviously not due in any way to the white cement used.

When the best results are desired, you will find it advisable to bear this in mind, and insist on the proper safeguards being employed.





Residence of  
**W. T. BRADLEY**  
WESTPORT, NEW YORK

C. G. Ogden, Architect  
C. L. LeBoeuf, Builder

*Exterior Stucco Atlas-  
White and yellow sand  
(on metal lath)*



Residence of  
**H. J. HOWE**  
SYRACUSE, NEW YORK  
Harry Phoenix, Architect  
J. Bixby Company, Builders  
*Exterior Atlas-White Stucco  
(on metal lath)*



Residence of  
**ALEXANDER HOLMES**  
LOCH ARBOUR, N. J.

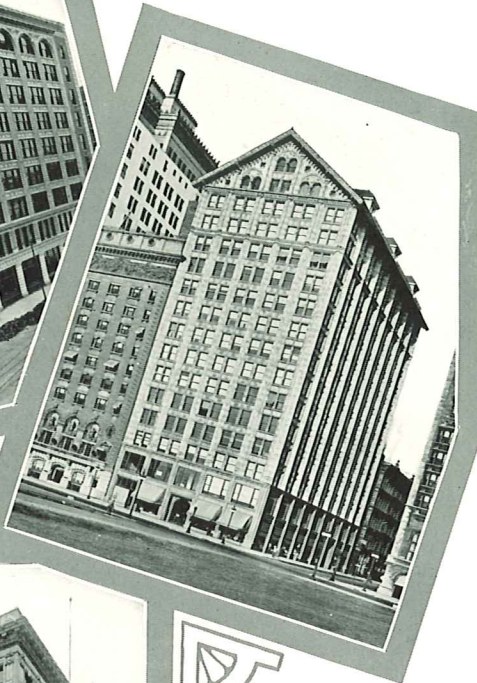
Ernest A. Arend, Architect  
I. R. Taylor & Company, Builders

*Exterior Atlas-White  
Stucco (on wire lath)*

**MONOGRAM BUILDING**  
ST. LOUIS, MISSOURI

Albert B. Groves, Architect  
James Black Masonry and Construction Co.  
Builders

*Atlas-White exterior trim*



**HARTMAN BUILDING AND THEATRE**  
COLUMBUS, OHIO

Richards, McCarthy & Bulford, Architects  
Selden-Breck Construction Company, Builders

*Atlas-White used for laying exterior tile*

**MONROE BUILDING**  
CHICAGO, ILLINOIS

Holabird & Roche, Architects  
George A. Fuller, Builder

*Atlas-White tile used*



## THE ATLAS PORTLAND CEMENT COMPANY

Laboratories: Northampton, Pa., U. S. A.

### Analysis and Tests of Atlas-White Portland Cement

#### Average Chemical Analysis

Silica	.	.	.	.	.	.	24.98
Iron Oxide	.	.	.	.	.	.	.53
Alumina	.	.	.	.	.	.	5.73
Lime (Ca O)	.	.	.	.	.	.	62.97
Magnesia (Mg O)	.	.	.	.	.	.	.91
Sulph. Trioxide (SO <sub>3</sub> )	.	.	.	.	.	.	1.63
Ignition Loss	.	.	.	.	.	.	2.36
Total	.	.	.	.	.	.	99.11

#### Average Tests

Setting Time, Initial	.	.	1 hour-20 min.
Setting Time, Final	.	.	3 hours
Specific Gravity	.	.	3.053
Fineness—Thru No. 100 Sieve	.	.	98.8%
Fineness—Thru No. 200 Sieve	.	.	92.5%

## THE ATLAS PORTLAND CEMENT COMPANY

Laboratories: Northampton, Pa., U. S. A.

### Analysis and Tests of Atlas-White Portland Cement (Continued)

#### Average Tensile Strength Per Square Inch

##### Neat

24 Hours	.	.	.	.	.	345 pounds
7 Days	.	.	.	.	.	625 "
28 Days	.	.	.	.	.	735 "
3 Months	.	.	.	.	.	765 "
6 Months	.	.	.	.	.	795 "

##### Sand 1 to 3

24 Hours	.	.	.	.	.	120 pounds
7 Days	.	.	.	.	.	230 "
28 Days	.	.	.	.	.	355 "
3 Months	.	.	.	.	.	365 "
6 Months	.	.	.	.	.	400 "
Per Cent. Water Used, Neat	.	.	.	.	.	23.0
Per Cent. Water Used, Sand	.	.	.	.	.	9.9



## HILDRETH & COMPANY

135 Broadway, New York City

### Tests of Atlas-White Portland Cement

December 12, 1910

#### Chemical Analysis

Silica	.	.	.	.	.	.	23.52
Alumina	.	.	.	.	.	.	6.33
Oxide of Iron	.	.	.	.	.	.	.51
Lime	.	.	.	.	.	.	63.94
Magnesia	.	.	.	.	.	.	1.25
Sulphuric Anhydride	.	.	.	.	.	.	1.71
Loss on Ignition	.	.	.	.	.	.	2.25
Total	.	.	.	.	.	.	99.51

#### Tensile Strength Per Square Inch

##### Neat

24 Hours	7 Days	28 Days
409 pounds	590 pounds	630 pounds
387 "	585 "	625 "
376 "	641 "	650 "
Av. 391 pounds	605 pounds	635 pounds
Per Cent. Water Used,	.	25

## HILDRETH & COMPANY

135 Broadway, New York City

### Tests of Atlas-White Portland Cement (Continued)

#### Sand 1 to 3

7 Days	28 Days
300 pounds	470 pounds
286   “	426   “
295   “	430   “
Av. 294 pounds	432 pounds
Per Cent. Water Used	10.5

Boiling Water Test	. . . . .	Sound
Fineness Thru 100 Sieve	. . . . .	98.5%
Fineness Thru 200 Sieve	. . . . .	92%
Specific Gravity	. . . . .	3.10
Time of Setting	{ Initial, 1 hour, 55 minutes Final, 4 hours, 20 minutes	

HILDRETH & COMPANY



## LEHIGH VALLEY TESTING LABORATORY

Allentown, Pennsylvania

### Tests of Atlas-White Portland Cement

November 23, 1910

#### Tensile Strength Per Square Inch

##### Neat

	24 Hours	7 Days	28 Days
1	364 pounds	610 pounds	670 pounds
2	365 "	621 "	721 "
3	342 "	600 "	755 "
4	362 "	634 "	746 "
5	339 "	630 "	710 "
Av.	354 pounds	619 pounds	720 pounds

##### Sand 1 to 3

	7 Days	28 Days
1	347 pounds	395 pounds
2	304 "	390 "
3	321 "	403 "
4	320 "	410 "
5	317 "	400 "
Av.	322 pounds	400 pounds

Per Cent. Water Used, Neat	.	.	.	25
Per Cent. Water Used, Sand	.	.	.	10.2
Initial Set	.	.	.	1 hour 55 minutes
Final Set	.	.	.	4 hours
Fineness Thru 100 Sieve	.	.	.	98.6%
Fineness Thru 200 Sieve	.	.	.	90.6%
Specific Gravity as Received	.	.	.	3.06
Ignited	.	.	.	3.09

# ROBERT W. HUNT & COMPANY

NEW YORK

F 7729-A

May 25, 1911

## Report of Tests on Sample of Atlas-White Cement

Initial Set, 1 hr. 30 min. Cold Water Test O. K.  
Final Test, 4 hrs. Boiling Test O. K.  
Per cent. Fineness, 100 Sieve . 98.8 Per Cent.  
" " " 200 " . 87 " "

## Tensile Test

	NEAT			1 Cement, 3 Sand	
	24 Hrs.	7 Days	28 Days	7 Days	28 Days
	275	680	800	245	380
	280	725	820	250	420
	345	715	835	270	400
Avg.	300	707	818	255	400

Water 21 Per Cent. Water 9.6 Per Cent.

## Analysis

Per Cent. Silica	.	.	.	.	.	25.20
" " Alumina	.	.	.	.	.	6.37
" " Iron Oxide	.	.	.	.	.	.63
" " Lime	.	.	.	.	.	62.83
" " Magnesia	.	.	.	.	.	1.64
" " Sulphuric Anhydride	.	.	.	.	.	1.63
" " Loss by Ignition	.	.	.	.	.	1.50
Specific Gravity	.	.	.	.	.	3.124

Sample purchased from John P. Kane Co., April 24, 1911, for Atlas Portland Cement Co.

ROBERT W. HUNT & CO.



**OHIO STATE UNIVERSITY**  
**Department of Civil Engineering**  
**CEMENT TESTING LABORATORY**  
**Columbus, Ohio**

Report No. 1                                      Job, 1                                      Record, 237  
 Brand, White Atlas, Portland      Date of Sampling, December, 1912  
 How Sampled (?) Sent from Factory  
 Reported to Atlas Portland Cement Company, March 12, 1913.

**Laboratory Data**

Kind of Sand, Ottawa; Temperature of Laboratory,  $67\frac{1}{2}^{\circ}\text{F.}$ ; of Water,  $62\frac{1}{2}^{\circ}\text{F.}$ ; Kind of Testing Machine, Riehle; Application of Load, 600 Pounds per Minute; Per cent. of Water for Normal Consistency, 24%; Penetration by Vicat Needle, at once, 10 m.m. 1 min., 16 m.m.

**Results of Tests**

**FINENESS**—Per cent. passing No. 200, 96.2; Per cent. passing No. 100, 99.6; On No. 100, 0.4

**TIME OF SETTING**—Gaged, 4 min.; Initial Set, 2 hrs. 30 min., Final Set, 7 hrs., 20 min.; Method, Gillmore Needles.

**SOUNDNESS**—Pat No. 2373 in air, loose, O. K.; Pat No. 2372 in water, loose, O. K.; Pat No. 2371, 5 hrs. in steam, loose, O. K.

**Tensile Strength**

	No.	Per Ct. of Water	Age in Days	POUNDS PER SQUARE INCH				Average	Remarks
Neat	2371	24	1	477	455	450	480	465	
	2372	"	7	490	575	515	497	519	
	2373	"	28	690	675	730	633	682	33 Days
1-3	2374	9.5	7	258	305	265	311	285	
	2373	"	28	363	435	380	380	390	33 Days

The cement worked beautifully under the trowel. Test very satisfactory.

Respectfully submitted,

F. H. ENO.

All tests according to A. S. C. E. Standards.

